In the Claims:

Please amend the claims as follows:

1. (currently amended) A method for communicating data in a time division multiple access system where the data ~~(PL, RF)~~ is transmitted wirelessly between stations ~~(MS1-MS6; BS1-BS3)~~ in time slots ~~(s(i))~~, the time slots ~~(s(i))~~ being organized in frames ~~(F(i))~~ of a repeating frame structure ~~(F1, F2, F3)~~, the stations ~~(MS1-MS6; BS1-BS3)~~ selecting time slots ~~(s(i))~~ for transmission of data ~~(PL, RF)~~ according to a self organizing transmission algorithm which allows a first station ~~(MS1)~~ to reuse a time slot that is allocated to a second station ~~(MS2-MS6, BS2, BS3)~~, the method ~~involving~~ comprising:

transmitting an addressed message ~~(M^{M1}_{Adr})~~ from a first base station ~~(BS1)~~ to a mobile station ~~(MS1)~~,

transmitting, in response to the addressed message ~~(M^{M1}_{Adr})~~, an acknowledgement message ~~(Ack^{M1}_{B1})~~ from the mobile station ~~(MS1)~~, and

repeating the transmission of the addressed message ~~(M^{M1}_{Adr})~~ from the first base station ~~(BS1)~~ to the mobile station ~~(MS1)~~ until either a message handling entity ~~(MHE)~~ being responsible for the transmission of the addressed message ~~(M^{M1}_{Adr})~~ has received the acknowledgement message ~~(Ack^{M1}_{B1})~~ or a maximum number ~~(n_{max})~~ of retransmissions has been performed, ~~characterized by~~

receiving the acknowledgement message ~~(Ack^{M1}_{B1})~~ in a second base station ~~(BS2)~~,

forwarding the acknowledgement message ~~(Ack^{M1}_{B1})~~ from the second base station ~~(BS2)~~ to the message handling entity ~~(MHE)~~, the message handling entity ~~(MHE)~~ being connected to a network ~~(N)~~ to which both the first base station ~~(BS1)~~ and the second base station ~~(BS2)~~ are connected, either directly or via at least one intermediate node, and

receiving the acknowledgement message ~~(Ack^{M1}_{B1})~~ in the message handling entity ~~(MHE)~~ via the network ~~(N)~~.

2. (currently amended) A method according to claim 1, ~~characterized by~~ further comprising forwarding the acknowledgement message ~~(Ack^{M1}_{B1})~~ via the network ~~(N)~~ to the message handling entity ~~(MHE)~~ within the first base station ~~(BS1)~~.

3. (currently amended) A method according to claim 1, ~~characterized by~~ further comprising forwarding the acknowledgement message ~~(Ack^{M1}_{B1})~~ via the network ~~(N)~~ to a node in the network ~~(N)~~ which is separated from the first base station ~~(BS1)~~.

4. (currently amended) A method according to ~~any one of the preceding claims, characterized by~~ claim 1, wherein the self-organizing transmission algorithm permits only ~~permitting~~ the first station ~~(MS1)~~ to reuse a time slot ~~(s(i))~~ allocated to a base station ~~(BS2, BS3)~~ if the base station ~~(BS2, BS3)~~ is located outside a threshold distance ~~(D_{th})~~ from the first station ~~(MS1)~~.

5. (currently amended) A method according to claim 4, ~~characterized by~~ wherein the self-organizing transmission algorithm ~~permitting~~ permits the first station ~~(MS1)~~ to reuse a time slot ~~(s(i))~~ allocated to a mobile station ~~(MS2-MS6)~~ that is located at any distance from the first station ~~(MS1)~~.

6. (currently amended) A method according to ~~any one of the claims 4 or 5, characterized by~~ claim 1, wherein the first station ~~(MS1) being~~ is a mobile station.

7. (currently amended) A computer program directly loadable into the internal memory of a digital computer, comprising software for accomplishing the steps of ~~any of the claims 1 – 6~~ claim 1 when said program is run on a computer.

8. (currently amended) A computer readable medium, having a program recorded thereon, where the program is to make a computer accomplish the steps ~~of any of the claims 1—6~~ recited in claim 1.

9. (currently amended) A message handling entity ~~(MHE)~~ for controlling data communication between at least one base station ~~(BS1, BS2)~~ and at least one mobile station ~~(MS1-MS4)~~ in a time division multiple access system where the data is transmitted wirelessly between the stations ~~(MS-1-MS6; BS1-BS3)~~ in time slots ~~(s(i))~~, the time slots ~~(s(i))~~ are organized in frames ~~(F(i))~~ of a repeating frame structure ~~(F_1, F_2, F_3)~~, the stations ~~(MS1-MS6; BS1-BS3)~~ select time slots ~~(s(i))~~ for transmission of data ~~(PL, RF)~~ according to a self-organizing transmission algorithm which allows a first station ~~(MS1)~~ to reuse a time slot that is allocated to a second station ~~(MS2-MS6, BS2, BS3)~~, comprising:

a memory area ~~(850)~~ adapted to hold status information pertaining to an addressed message ~~(M^{M1}_{Adr})~~ sent from a first base station ~~(BS1)~~ to a particular mobile station ~~(MS1)~~,

an interface ~~(860)~~ towards a network ~~(N)~~ adapted to

send a control message ~~(C^{M}_{MS1})~~ ordering the first base station ~~(BS1)~~ to transmit an addressed message ~~(M^{M1}_{Adr})~~ to the mobile station ~~(MS1)~~,

receive an acknowledgement message ~~(Ack^{M1}_{B1})~~ from a second base station ~~(BS2)~~, the acknowledgement message ~~(Ack^{M1}_{B1})~~ having been generated by the mobile station ~~(MS1)~~ in response to the addressed message ~~(M^{M1}_{Adr})~~ and sent to the second base station ~~(BS2)~~, and

forward the acknowledgement message ~~(Ack^{M1}_{B1})~~ for

processing in the message handling entity ~~(MHE)~~, and a central unit ~~(840)~~ adapted to

order retransmission of the addressed message ~~(M^{M1}_{Adr})~~ from the first base station ~~(BS1)~~, if after a pre-determined interval ~~(T'_{Ret})~~ from the transmission of the addressed message ~~(M^{M1}_{Adr})~~, the status information remains intact in the memory area ~~(850)~~,

order repeated retransmission a maximum number of times ~~(n_{max})~~, and

receive the acknowledgement message ~~(Ack^{M1}_{B1})~~, and in response thereto, clear the status information in the memory area ~~(850)~~.

10. (currently amended) A base station ~~(BS1)~~ for communicating data with at least one other station ~~(MS1-MS4)~~ in a time division multiple access system where the data is transmitted wirelessly between the stations ~~(MS1-MS6; BS1-BS3)~~ in time slots ~~(s(i))~~, the time slots ~~(s(i))~~ are organized in frames ~~(F(i))~~ of a repeating frame structure ~~(F_1, F_2, F_3)~~, the stations ~~(MS1-MS6; BS1-BS3)~~ select time slots ~~(s(i))~~ for transmission of data ~~(PL, RF)~~ according to a self-organizing transmission algorithm which allows a first station ~~(MS1)~~ to reuse a time slot that is allocated to a second station ~~(MS2-MS6, BS2, BS3)~~, comprising

a transmitter ~~(1110)~~ adapted to transmit an addressed message ~~(M^{M1}_{Adr})~~ to a mobile station ~~(MS1)~~,

a memory area ~~(1150)~~ adapted to hold status information pertaining to the addressed message ~~(M^{M1}_{Adr})~~,

a receiver ~~(1120)~~ adapted to

receive an acknowledgement message (~~Ack^{M1}_{B1}~~) generated by the mobile station (~~MS1~~) in response to the addressed message (~~M^{M1}_{Adr}~~), and

forward the acknowledgement message (~~Ack^{M1}_{B1}~~) for processing in the base station (~~BS1~~), and a central unit (~~1140~~) adapted to

retransmit the addressed message (~~M^{M1}_{Adr}~~), if after a predetermined interval (~~T_{Ret}~~) from the transmission of the addressed message (~~M^{M1}_{Adr}~~), the status information remains intact in the memory area (~~1150~~), repeat the retransmission a maximum number of times (~~n_{max}~~), and

receive the acknowledgement message (~~Ack^{M1}_{B1}~~), and in response thereto, clear the status information in the memory area (~~1150~~),

~~characterized in that it comprises:~~ and

an interface (~~1160~~) towards a network (~~N~~) to which at least one other base station (~~BS2~~) is connected, the interface (~~1160~~) being adapted to receive acknowledgement messages (~~Ack^{M1}_{B1}~~) from the at least one other base station (~~BS2~~) and forward any such messages to the central unit (~~1150~~).

11. (currently amended) A base station (~~BS1~~) according to claim 10, ~~characterized in that~~ wherein the receiver (~~1120~~) is adapted to receive acknowledgement messages (~~Ack^{M4}_{B2}~~) in respect of at least one other base station (~~BS2~~), and the interface (~~1160~~) is further adapted to

forward acknowledgement messages (~~Ack^{M4}_{B2}~~) received in respect of the at least one other base station (~~BS2~~) to the respective at least one other base station (~~BS2~~) via the network (~~N~~).